

**NATIONAL INSTITUTES OF HEALTH  
WARREN GRANT MAGNUSON CLINICAL CENTER  
NURSING DEPARTMENT**

**Standard of Practice: Care of the Patient with Lumbar Subarachnoid Drainage System**

**I. Assessment**

- A. Assess the patient and the system q 1 hour for the following:
  - 1. Position of patient
  - 2. Dressing integrity
  - 3. Integrity of suture securing the catheter-hub complex.
  - 4. Amount and character of CSF drainage
  - 5. Changes in CSF drainage pattern
  - 6. Leaks in system
  - 7. Position of drip chamber cylinder pressure level line in accordance with medical order (use calibrated mounting pole).
  - 8. System is open or system is clamped per medical order.
- B. Assess neurologic vital signs (to include LOC, mental status, pupils, extraocular movements, motor assessment), TPR, BP, and for the following signs/symptoms q 4 hours:
  - 1. Headache
  - 2. Nausea/vomiting
  - 3. Stiff neck
  - 4. Photophobia
  - 5. Temperature elevation
  - 6. Irritability

**II. Interventions**

- A. Position zero point on mounting pole at patient's external auditory meatus. Keep zero pointed at external auditory meatus when changing patient's position by moving and leveling mounting card.
- B. Adjust cylinder on mounting pole as indicated to maintain CSF drainage (as per Physician's orders). Keep cylinder attached to mounting pole and secured to IV pole at all times. Physician order should include hourly minimum and maximum parameters for CSF drainage. An adult produces approximately 15 – 20 ml of CSF per hour.
- C. Maintain head of bed in the flat position with one pillow.
- D. Keep motor power to bed turned off.
- E. Maintain sign, "**Lumbar Drain in Place**" on side rail of bed.
- F. Maintain stopcock below drip chamber cylinder "off" to cylinder until cylinder needs emptying.
- G. Place smooth, non-serrated plastic canula clamp at bedside for clamping if tube becomes disconnected or is leaking.
- H. Change the lumbar drainage collection bag when it becomes  $\frac{3}{4}$  full.
- I. Change the lumbar drainage collection bag and tubing if the following occurs:
  - 1. Any portion of the drainage system becomes disconnected or contaminated.
  - 2. The tubing becomes occluded.
- J. Do not change dressing; reinforce only.
- K. If CSF stops flowing, reposition the patient from side to side and lower the cylinder 1-3 inches for no more than one minute. Notify MD if CSF flow does not return (anticipate the replacement of the drainage system).
- L. Clamp the system, using the attached clamp on tubing, during patient transport.

- M. Reinforce with patient q 4 hours their physical limitations.
- N. Maintain drip chamber cylinder in upright position at all times. Change system if vent filter becomes wet.
- O. If the collection system becomes accidentally disconnected, clean the proximal end with an alcohol swab and cap with a sterile plug until a complete new system can be set up. Notify physician
- P. Reinforce with patient q 4 hours to report the following to the nurse:
  - 1. Headache
  - 2. Nausea
  - 3. Vomiting
  - 4. Pain at catheter insertion site
  - 5. Stiff neck
  - 6. Any disconnection of system
  - 7. Sensation of fluid dripping down back of throat or at catheter insertion site.
  - 8. Photophobia

### **III. Documentation**

- A. Amount of hourly CSF drainage on Intake and Output record and in the MIS.
- B. Document q 4 hours all nursing assessments and nursing interventions related to the lumbar drainage system in the MIS.
- C. Pressure level of cylinder on mounting pole (cm of H<sub>2</sub>O).
- D. Patient and family teaching.

#### IV. References

1. E.H. Oldfield, personal communication, December 28, 1993, DHHS: NIH: NINDS: SNB, Memorandum.
2. National Institutes of Health, Clinical Center Nursing Department (1998). Procedure: Lumbar Subarachnoid Drainage system. Bethesda: Author.
3. Hickey, J. (1997). The clinical practice of neurological & neurosurgical nursing (4<sup>th</sup> Ed.). Philadelphia. J.B. Lippincott.
4. Thompson, H (1998) American Association of Neuroscience Nurses, Clinical Guideline Series: Lumbar Drain Management. Chicago: American Association of Neuroscience Nurses.

Approved:

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